



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

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DEC 19 2008

Ref: 8EPR-N

Michael Ryan
Regional Director
Great Plains Director
Bureau of Reclamation
P.O. Box 36900
Billings, Montana 59107-6900

RE: Windy Gap Firing Project, Northern
Colorado, Draft Environmental Impact
Statement, CEQ #20080333

Dear Mr. Ryan:

The United States Environmental Protection Agency, Region 8 (EPA) has reviewed the U.S. Bureau of Reclamation's (BOR) Draft Environmental Impact Statement (DEIS) for the Windy Gap Firing Project. EPA offers these comments in accordance with the Agency's responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609.

The Windy Gap Firing Project (WGFP) is a proposed water supply project that is intended to provide more reliable water deliveries to Front Range and West Slope communities and industries. Due to physical limitations and constraints within the existing system, the current Windy Gap facilities have been and are currently unable to deliver the anticipated firm yield of water. Firm yield is typically defined as the amount of water that can be delivered on a reliable basis in all years and is typically determined by yield in dry years. The WGFP would add water storage and related facilities to the existing Windy Gap operations capable of delivering a firm yield of about 30,000 acre feet to Project Participants. Project Participants are all in the State of Colorado and include the City and County of Broomfield, Central Weld County Water District, the Town of Erie, City of Evans, City of Fort Lupton, City of Greeley, City of Lafayette, Little Thompson Water District, City of Longmont, City of Louisville, City of Loveland, Platte River Power Authority, and the Town Of Superior. In addition, the WGFP seeks to firm the water supply for the Middle Park Conservancy District which is a wholesale water supplier that allocates Windy Gap water to about 67 water providers in Grand and Summit Counties.

The DEIS analyzes five alternatives. Alternative 1, the no action alternative, assumes the continuation of existing operations and the enlargement of Ralph Price Reservoir by the City of Longmont. Alternative 2, development of a 90,000 acre-foot (AF) Chimney Hollow Reservoir on the East Slope of the Continental Divide (East Slope) along with the ability to store or

preposition Colorado-Big Thompson (C-BT) water in the new reservoir, is the proposed action Alternative 3 is a combination of a 70,000 AF Chimney Hollow reservoir on the East Slope and Jasper East Reservoir (20,000 AF) on the West Slope of the Continental Divide (West Slope). Alternative 4 is a combination of a 70,000 AF Chimney Hollow Reservoir on the East Slope and a 20,000 AF Rockwell Reservoir on the West Slope. Alternative 5 is a combination of a 60,000 AF Dry Creek Reservoir on the East Slope and a 30,000 AF Rockwell Reservoir on the West Slope. All build alternatives include various pipeline and connection infrastructure as well. All build alternatives would require a similar amount of water diverted from the Colorado River. Windy Gap firm yield would increase from zero under existing conditions to about 30,000AF under the Action alternatives.

EPA believes that this DEIS provides significant complex information. However, EPA has concerns with several aspects of the analysis, identified herein. In addition, based on EPA's review of the DEIS, EPA has significant objections to the WGFP's impacts to the Colorado River and to impaired water bodies. EPA also has concerns with the lack of analysis of conservation alternatives, the impacts to stream morphology of the Colorado River, and the water quality analysis in all of the water bodies potentially affected by this project. EPA's major comments on the DEIS are highlighted below, with attached detailed comments on these and additional concerns. In a separate letter to the United States Army Corps of Engineers (Corps), EPA is commenting on the Clean Water Act (CWA) 404 permit application, notice of which the Corps issued at the same time as the BOR issued the WGFP DEIS. EPA understands the Corps intends to rely on the BOR DEIS to ensure compliance with the CWA Section 404(b)(1) Guidelines requirements. A summary of EPA's CWA Section 404 permit application comments to the Corps is provided in this letter.

Water Quality Standards Violations and Degradation

EPA objects to the high potential for the WGFP to exacerbate existing water quality impairments in East Slope and West Slope water bodies. The DEIS predicts increased nutrient loading and consequent dissolved oxygen (D.O.) reductions to both East and West Slope rivers and reservoirs, several of which are already impaired. Carter Lake and Horsetooth Reservoir are on the State of Colorado's 2008 Clean Water Act Section 303(d) List of Water-Quality-Limited Segments as impaired for their Aquatic Life Use due to mercury (associated with nutrient enrichment and reduced oxygen environments). In addition, Horsetooth Reservoir is listed for D.O. impairment. Granby Reservoir, Shadow Mountain Reservoir, and Grand Lake are all acknowledged as exceeding applicable water quality standards (WQS). Projected instream temperature increases are also a significant stressor to aquatic life, and a significant impact of the project. High temperature and nutrient levels (and consequent low D.O. levels) may lead to additional, more severe, or further impairments throughout these watersheds, which will be difficult to remedy through point source controls alone. Further, any worsening of these conditions increases the future required efforts and costs associated with remediation and restoration. The proposed action appears to have the potential to directly impact the assimilative capacity for high temperatures and nutrients in all of the downstream reservoirs and streams,

exacerbating the difficult cleanup plans and wasteload allocations required in any forthcoming "Total Maximum Daily Loads" (TMDLs).

The DEIS does not provide adequate mitigation measures for these water quality impacts. The EIS should identify appropriate measures to address these impacts. EPA strongly suggests that BOR include enforceable mitigation measures in its Record of Decision (ROD) to minimize pollutant loading in the basin, and maintain healthy aquatic ecosystems in these waterbodies. Suggested mitigation measures are included in the enclosed detailed comments.

Impacts to the Colorado River

According to the DEIS, the WGFP will result in flow reductions to the Colorado River. The DEIS predicts the majority of the reductions to occur between May and August. From WGFP alone, the Colorado River average annual flow below Granby Reservoir is estimated to decrease by 15% (9,000 AF) under the proposed action, and 12-13% for the other action alternatives (see DEIS p. ES-8). Below the Windy Gap diversion, the decrease to the Colorado River is 14% for the action alternatives. The WGFP with other projects analyzed in the cumulative effects portion of the DEIS are estimated to reduce the Colorado River annual flow, below the Windy Gap diversion, by 21% in a wet year (1% in a dry year) (see DEIS p. ES-8). EPA has significant concerns with the reduction in flows to the Colorado River below Windy Gap (as well as at other points on the Colorado River, listed on Table 3-16, DEIS p. 3-45) associated with the action alternatives and cumulative impacts. This significant reduction in flow would impact aquatic ecosystem functioning and could result in unforeseen and irreversible ecological impacts. Further, EPA is concerned that mitigation for adverse or unavoidable impacts associated with an altered flow regime is extremely difficult and perhaps infeasible to offset losses.

The climate change discussion contends that modeling the future impacts of climate change relating to the Colorado River is not a useful exercise since existing reports on the impacts of climate change on the Colorado River are uncertain and predict a variety of outcomes (see DEIS p. 2-44). EPA believes BOR should model the impacts of a scenario where flows are reduced substantially because of climate change. It is reasonably foreseeable that minimal stream flows will occur much more often. That, coupled with the 21% flow reduction discussed above, suggests severe impacts to portions of the Colorado River affected by this project.

Sustainability and Conservation

The growth in the number of water projects in Colorado raises concerns over the sustainability of the current approach to water supply in the western United States. EPA believes that a higher priority should be placed on conservation, efficiency, and reuse, which could result in significant cost efficiencies and result in reduced environmental impacts and energy conservation. EPA believes that all of the communities taking part in the WGFP should be required, before any action alternative is considered, to take part in a number of conservation efforts that would boost the use of existing water supplies before building new infrastructure,

dams, and reservoirs. Most water providers appear to have implemented some water conservation measures, but many water saving measures appear underutilized and undeveloped or voluntary.

Alternatives Evaluated

The alternatives evaluated in the DEIS are limited to providing storage or firming for all or a portion of the existing junior water rights of the Windy Gap Firming Project for current and future municipal and industrial supply. EPA believes other alternatives may exist that are within a reasonable range of alternatives required by NEPA as well as less damaging practicable alternatives required by the CWA Section 404(b)(1) Guidelines to meet current or future water supply demand. These alternatives include, but are not limited to: 1) water conservation including active municipal, industrial (M&I) and agricultural efficiency measures; 2) acquisition of more senior water rights including water rights that have been available to the project proponent since the original Windy Gap Project; 3) agricultural transfers including permanent, interruptible, and rotating/fallowing transfers; 4) use of short-term agricultural leases for immediate temporary water supplies; 5) conjunctive use of surface water and ground water; and 6) M&I reuse, including water rights exchanges, non-potable reuse, and indirect potable reuse. EPA believes a conservation alternative, potentially in combination with other alternatives, would be in the best interests of the communities involved, from both a cost perspective and an environmental perspective.

Compliance with the CWA Section 404(b)(1) Guidelines

As noted above, EPA is providing comments on the CWA Section 404 permit application for the project in a separate letter to the Corps. EPA understands the Corps intends to use the BOR EIS to satisfy the requirements of the CWA Section 404(b)(1) Guidelines (Guidelines). The Corps must ensure compliance with the Guidelines prior to issuance of a CWA Section 404 permit for the discharge of dredged or fill material into waters of the United States. EPA disagrees with the narrow scope of the purpose and need statement in the DEIS for the issuance of a CWA Section 404 permit. EPA believes the basic (overall) project purpose is to provide a portion of the existing and future water supply demands of project participants.

EPA believes the DEIS analysis is not in compliance with the Guidelines in accordance with 40 CFR 230.12 due to: 1) an improperly truncated review of alternatives (40 CFR 230.10(a)); 2) a lack of meaningful analysis of regarding potential violations of State water quality standards (40 CFR 230.10(b)); 3) a lack of meaningful analysis regarding the potential for the proposed action to cause or contribute to significant degradation of waters of the U.S, specifically in light of secondary and cumulative effects of this and other reasonably foreseeable water projects within the Upper Colorado River Basin (40 CFR 230.10(c)); and 4) insufficient mitigation (40 CFR 230.10(d)).

In addition, based on the information currently available in the DEIS, EPA believes the proposed action will result in substantial and unacceptable impacts to the Upper Colorado River

Basin, which EPA has determined is an aquatic resource of national importance (ARNI) in accordance with the CWA Section 404(q) and Part IV(3)(b) of the 1992 Memorandum of Agreement between EPA and the Department of the Army. In its letter to the Corps regarding the WGFP CWA Section 404 permit application, EPA is requesting the Corps reconsider the availability of potentially less environmentally damaging practicable alternatives.

Mitigation


The mitigation measures for water quality and stream morphology impacts are not sufficiently definitive and give no assurance that they will be required or will mitigate for the impacts expected (see DEIS p.3-292). EPA strongly suggests that enforceable mitigation measures for the water quality and stream morphology impacts of this project be included in the ROD. We have included examples of mitigation measures in our enclosed detailed comments.

Rating

Based on EPA's review as summarized in the above comments, and in accordance with our policies and procedures for reviews under NEPA and Section 309 of the Clean Air Act, EPA has rated the DEIS as "Environmental Objections - Insufficient Information" ("EO-2") (Because the DEIS does not identify a preferred alternative, EPA is rating all of the action alternatives EO-2). The "EO" rating signifies that EPA's review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. The basis for the EO rating is EPA's belief that the action might violate or be inconsistent with achievement or maintenance of the Clean Water Act, e.g., impairment of already impaired waters without assurance of adequate mitigation of these impacts. The "2" rating signifies that the DEIS does not contain sufficient information for the EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment. The water quality and stream morphology sections of the enclosed detailed comments discuss the information EPA believes is insufficient. EPA's comments, and this rating, apply to all the action alternatives carried through the analysis. A description of EPA's EIS rating system is enclosed.

EPA remains committed to working with the BOR and the Corps on the issues described in this letter. We are committed to providing information in areas where we have requested additional information or additional mitigation, if you request. Please contact me at 303 312-6004, or Melanie Wasco of my staff, at 303 312-6540.

Sincerely,

A handwritten signature in dark ink, appearing to read "Larry Svoboda", written in a cursive style.

Larry Svoboda
Director, NEPA Program

cc: Will Tully, U.S. Bureau of Reclamation
Chandler Peter, U.S. Corps of Engineers



EPA's Detailed Comments
Windy Gap Firing Project (WGFP) DEIS

PURPOSE AND NEED

The DEIS states that the purpose and need of the proposed project is, in part, “to deliver a firm annual yield of about 30,000 AF of water from the existing Windy Gap Project to meet a portion of the water deliveries anticipated from the original Windy Gap Project” (see DEIS p. 1-1). The Purpose and Need stated in the DEIS artificially constrains alternatives to those directly associated with the existing Windy Gap Project. EPA believes the project purpose is to meet a portion of the existing and future water supply demands of project participants and thus additional alternatives that address this purpose should be analyzed and included.

In addition, detailed information on the demand shortfall that occurred after the original Windy Gap project was built is not included in the DEIS. The historical perspective of the potential cause of the demand reductions during the post project time period may be pertinent to present day circumstances. Because demand projections are difficult to estimate, EPA recommends that the Bureau of Reclamation (BOR) and the Army Corps of Engineers (Corps) request an independent review of the Participants’ estimated and future water requirements and supply studies (i.e., alternatives) by the Corps’ Institute for Water Resources, and utilize the most current economic and population growth indicators for future water demand and supply information in subsequent NEPA documentation. EPA notes that the recent downturn in the real estate market could slow growth significantly in all of the communities served by this water.

SUSTAINABILITY AND CONSERVATION

The growth in the number of water projects in Colorado raises concerns over the sustainability of the current approach to water supply in the western United States. EPA believes that a higher priority should be placed on conservation, efficiency, and reuse, which could result in significant cost efficiencies, reduced environmental impacts, and increased energy conservation.

EPA believes all of the communities taking part in the WGFP should be required, before any action alternative is considered, to take part in a number of conservation efforts that would boost the use of existing water supplies before building new infrastructure, dams, and reservoirs. Most water providers appear to have implemented some water conservation measures, but many water saving measures appear underutilized and undeveloped, or voluntary. The BOR should evaluate different levels of conservation practices available to the Participants and require the communities participating in this project demonstrate that they have implemented a variety of sustainable water conservation measures, including but not limited to: water metering, water leak detection, conservation pricing, landscape requirements, water reuse, consumer education, golf course water conservation, emergency water use restrictions.

The BOR could suggest a per capita use percentage reduction for each community as a goal, and that number could depend on the water use percentage of industry in the community, and the current status of the community's per capita usage. While EPA recognizes that the water use per capita for Windy Gap participants dropped 37% between 1988 and 2003, EPA believes the participants can go further in cutting the water demand (see DEIS p. 1-15).

ALTERNATIVES

NEPA regulations require an evaluation of a reasonable range of alternatives in a manner that provides a clear and consistent comparison (40 CFR 1502.1, 40 CFR 1502.14(b)). The CWA Section 404(b)(1) Guidelines require the Corps to issue a CWA Section 404 permit for the discharge of dredged or fill material into waters of the United States only for the least environmentally damaging practicable alternative (LEDPA) (40 CFR Part 230). Alternatives that are reasonable and practicable may include alternatives that are outside the capability of the applicant and are feasible from a technical and economic standpoint. EPA does not believe the DEIS provides an alternatives analysis that complies with either the Council on Environmental Quality (CEQ) regulations at 40 CFR 1502.14 or the CWA Section 404(b)(1) Guidelines. The alternatives evaluated in the DEIS are limited to providing storage or firming for all or a portion of the existing junior water rights of the Windy Gap Firming Project for current and future municipal and industrial supply. The DEIS described the process of evaluating a broad range of alternatives including structural and nonstructural water supply alternatives. However, according to the DEIS, the screening process resulted in the elimination of the majority of alternatives in order to comply with the Guidelines.

Despite the screening criteria used in the DEIS, EPA continues to believe other reasonable and less damaging practicable alternatives may be available to meet current or future demand. Such alternatives include, but are not limited to: 1) water conservation including active municipal, industrial (M&I) and agricultural efficiency measures; 2) acquisition of more senior water rights including water rights that have been available to the project proponent since the original Windy Gap project; 3) agricultural transfers including permanent, interruptible, and rotating/fallowing transfers; 4) use of short-term agricultural leases for immediate temporary water supplies; 5) conjunctive use of surface water and ground water; and 6) M&I reuse, including water rights exchanges, non-potable reuse, and indirect potable reuse. These water supply alternatives are detailed in the State of Colorado Statewide Water Supply Initiative, Phase II Report (SWSI) CDM 2004; <http://cwcb.state.co.us/IWMD/AlternativeAgriculturalWaterTransfersGrantProgram/>). EPA understands the State of Colorado considers these alternatives viable to address Colorado's water supply needs.

The DEIS states that each participant has developed a unique portfolio of water supply sources to meet existing and anticipated water needs and that a diversity of water supply sources is generally preferred to ensure reliable deliveries (see DEIS p. 1-11). EPA believes the alternatives identified above may provide comparably diverse water supply opportunities, or potentially more reliable and efficient options for water supply for the Participants than the

proposed project and should be critically explored. An alternative that is aggressive on conservation (alone or in combination with other alternatives identified above) will not only disclose valuable information for the decisionmakers and the public to compare the magnitude of environmental effects of the alternatives, but will also reduce costs and dramatically reduce environmental impacts and energy use.

USE OF NO ACTION ALTERNATIVE FOR BASELINE CONDITIONS:

The BOR compares impacts of the action alternatives to the no action alternative, rather than to existing baseline conditions. The DEIS, in most cases, contains sufficient information to enable the reader to compare action alternatives to existing conditions, which EPA believes is more consistent with the intent of NEPA. In the case of stream temperature impacts, the DEIS does not indicate whether the projected percent temperature increase is related to the no action or existing conditions. We believe, when specifying mitigation measures, the BOR should be comparing impacts to existing conditions.

INDIRECT IMPACTS

The DEIS fails to evaluate “indirect” impacts (caused by the action and later in time or farther removed in distance) to wetlands and other waters resulting from reasonably foreseeable growth inducing effects from the proposed action. Firming of Windy Gap water will likely provide more reliable water supply to both the Front Range communities and the West Slope Participants. This proposed water supply will affect future development growth rates, population density and changes in land use patterns. These potentially significant indirect effects from land development and construction should be evaluated and disclosed to determine the potential adverse impacts to wetlands and other waters. An analysis similar to the one used in the Northern Integrated Supply Project DEIS, which identified the wetland losses as cumulative effects but that EPA believes is a combination of indirect and cumulative impacts, should be used to calculate indirect impacts to wetland acreages resulting from construction and development in the broader study area (and not just related to development near the proposed reservoirs). In addition, it should not be assumed that Clean Water Act Section 404 permits including mitigation will be required for reasonably foreseeable development impacts because certain wetlands and other waterbodies in Colorado do not require permits due to their locations on the landscape.

CUMULATIVE IMPACTS

According to the DEIS, the WGFP will result in flow reductions to the Colorado River, the majority of which are projected to occur between May and August. From this project alone, the Colorado River average annual flow below Granby Reservoir is estimated to decrease by 15% (9,000 AF) from existing conditions under the proposed action, and 12-13% for the other action alternatives. Below the Windy Gap diversion, the decrease to the Colorado River is 14% for the action alternatives. Other projects analyzed in the cumulative effects portion of the DEIS, in combination with Windy Gap, are estimated, as an annual average, to reduce the Colorado

River flow below the Windy Gap diversion by 21% in a wet year (1% in a dry year). EPA has significant concerns with the reduction in flows to the Colorado River below Windy Gap (as well as at other points on the Colorado River, listed on Table 3-16, DEIS p. 3-45) associated with the action alternatives and cumulative impacts. It is important to note that the DEIS states that average annual stream flow in the Colorado River at Hot Sulphur Springs declined from 486,209 AF in 1905-1949 to 175,264 AF in 1950-1994 (see DEIS p. 3-7), a decline in average annual stream flow of 64% due, in part, to diversions from Moffat, Colorado Big Thompson and Windy Gap diversions. Thus, this project, in combination with other reasonably foreseeable actions, will remove an additional 21% of the remaining 36% of the annual flow hydrograph, leading to further impacts to the river from manmade diversions.

This project's impacts to the Colorado River, coupled with other reasonably foreseeable actions, could be severe, with irreparable harm done. EPA has objections to the cumulative impacts to the Colorado River. We believe much more attention should be given to what these projects are doing in total to the Colorado River. EPA recognizes that the existing peak flow conditions on the Colorado River are very different than historical conditions (Figure 1, Table 1), and is concerned that further reductions to the existing hydrograph will reduce the resiliency of the system and place the system at much higher risk of threshold (non-linear) changes to the aquatic community.

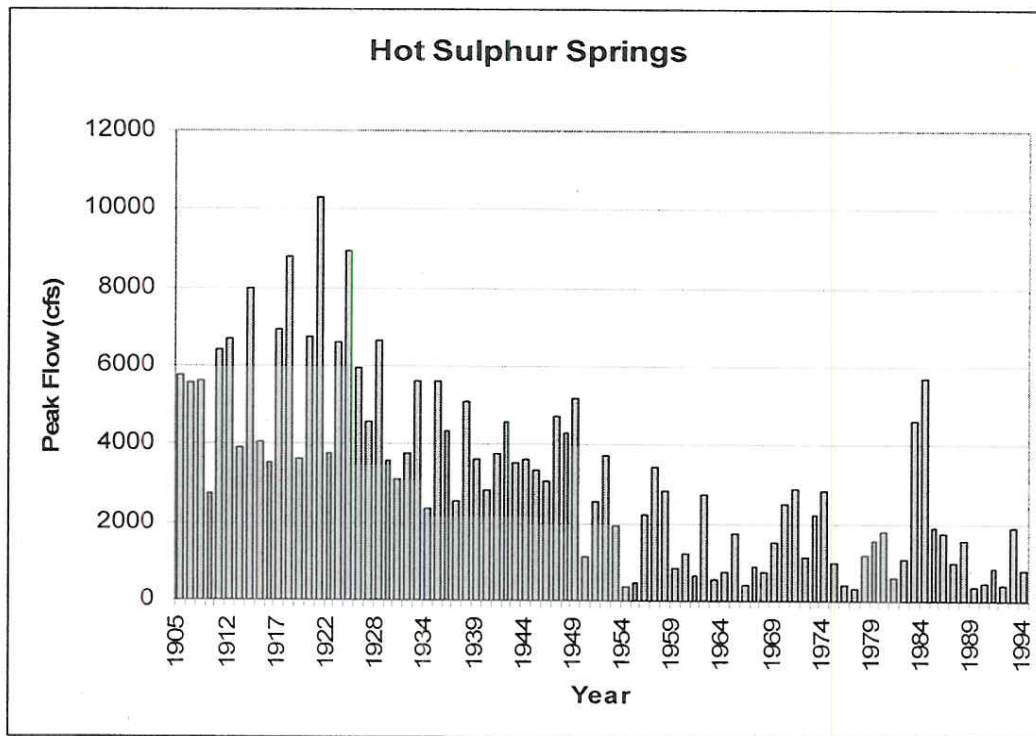


Figure 1: Instantaneous peak flows from the USGS gage at Hot Sulphur Springs from 1904-1994. The study period for WGFP hydrologic analyses began in 1950.

Table 1: Instantaneous peak flow return intervals from USGS gage at Hot Sulphur Springs for 1904-1949 and 1950-1994 calculated by EPA using a Log-Pearson Type III Distribution. Flow is displayed in cubic feet per second (cfs).

Return Interval (years)	1905-1949 Flow (cfs ¹)	1950-1994 Flow (cfs)
2	4,629	1,232
5	6,302	2,297
10	7,440	3,176
25	8,909	4,483
50	10,026	5,598
100	11,166	6,831
200	12,334	8,199

Throughout the DEIS there are references to the project's direct and indirect impacts to stream morphology, water quality and aquatic life as minor, and that cumulative effects are similar to the direct effects. EPA believes that when the impacts of this project are analyzed in combination with past and reasonably foreseeable actions, the impacts reach a level of significance that is objectionable. EPA believes that it is likely that the proposed project will have serious adverse effects on aquatic ecosystem diversity, productivity and stability not analyzed sufficiently in the DEIS.

EPA is concerned that the cumulative effects analysis did not consider the potential for threshold (non-linear) responses within the Colorado River. The impacts of the project are exacerbating current hydrologic conditions associated with the operation of diversion within the Upper Colorado Basin. Incremental or piecemeal movement towards a reduced hydrograph with altered temporal variation increases the likelihood for the system to approach a threshold point beyond which the system may exhibit dramatic changes, potentially including loss of native fish species. The EIS should assess the long-term cumulative impacts and uncertainty in their predicted responses. An additional component of a cumulative impacts analysis should address the potential for threshold responses.

The DEIS acknowledges the importance of bankfull and channel maintenance flows in the DEIS. EPA suggests that BOR address a minimum mitigation that is equivalent to that flow volume (e.g., 1,240 cfs for bankfull discharge) instead of the 450 cfs of the existing mitigation.

The climate change discussion contends that modeling the future impacts of climate change relating to the Colorado River is not a useful exercise since existing reports on the impacts of climate change on the Colorado River are uncertain and predict a variety of outcomes. (see DEIS p. 2-44) However, EPA believes BOR should model the impacts of a scenario where flows are reduced substantially because of climate change. It is reasonably foreseeable that minimal stream flows will occur much more often than occurs now. That, coupled with the 21%

reduction discussed above, suggest severe impacts to the portions of the Colorado River impacted by this project.

WATER QUALITY

In general, increased nutrient loading and consequent dissolved oxygen (D.O.) reductions to both East and West Slope rivers and reservoirs are the most significant water quality impacts of the proposed project. Projected instream temperature increases are also a significant stressor to aquatic life, and a significant impact of the project.

High temperature and nutrient levels, and consequent low D.O. levels, are impacts disclosed in the DEIS. These water quality impacts may lead to additional or further impairments in these watersheds, which could be difficult and costly to remedy, and probably not practical to remediate through point source controls alone. The mitigation measures for temperature and nutrient reductions and controls are not specific and must be designed to minimize pollutant loading in the basin commensurate with the projected increases. Specific nonpoint source mitigation agreements should be included in the Record of Decision along with quantifiable reduction targets. The following comments contain specific water quality impacts for individual water bodies affected by the WGFP. In addition, specific impacts to waste water treatment plants and other point sources affected by this project are included, as well as suggestions for mitigation.

Impaired Waterbodies Potentially Impacted by the WGFP

The action alternatives would impact multiple waterbodies in both East and West Slope watersheds. Many of these waterbodies are recognized as impaired and are on the State of Colorado's 2008 Clean Water Act Section 303(d) List of Water-Quality-Limited Segments Requiring TMDLs (the 303(d) List). Although Table 3-41 shows the 303(d) listing status for major lakes and reservoirs potentially impacted by the project, the DEIS does not summarize the projected impacts from this project on those impaired waters. Carter Lake and Horsetooth Reservoir are listed as impaired for their Aquatic Life Use due to mercury (associated with nutrient enrichment and reduced oxygen environments). In addition, Horsetooth Reservoir is impaired for D.O.. Granby Reservoir, Shadow Mountain Reservoir, and Grand Lake are all acknowledged as exceeding applicable water quality standards (WQS).

EPA objects to the high potential for the WGFP to exacerbate existing water quality impairments in these basins. High temperature and nutrient levels (and consequent low D.O. levels) may lead to additional, more severe, or further impairments potentially widespread throughout these watersheds, which could be difficult to remedy through point source controls alone. Further, any worsening of these conditions increases the future required efforts and costs associated with remediation and restoration. The proposed action appears to have the potential to directly impact the assimilative capacity for high temperatures and nutrients in all of the downstream reservoirs and streams, exacerbating the difficult cleanup plans and wasteload allocations required in any forthcoming "Total Maximum Daily Loads" (TMDLs).

EPA strongly suggests that BOR include in its ROD enforceable mitigation measures for temperature and nutrient reductions and controls designed to minimize pollutant loading in the basin, as well as controls to decrease chlorophyll a and undesirable algal growth, and maintain requisite D.O. for healthy aquatic ecosystems in these waterbodies. Specific enforceable nonpoint source mitigation agreements should be included in the ROD along with quantifiable reduction targets for each mitigation activity. EPA suggests that an initial 2 to 1 ratio of expected reductions to projected impacts be committed to, along with specified monitoring requirements to verify actual reductions. This allows the proponents to try multiple cost-effective remediation practices simultaneously, while monitoring the success of each activity. Ultimately, the proponents may choose whatever cost-effective remediation means provide mitigation commensurate with the projected impacts. Beginning with a 2:1 ratio of estimated reduction to credit for mitigation ensures that water quality standards violations will be minimized as the mitigation selection process is finalized. Monitoring of the mitigation measures success may be used to select the most preferable methods; to verify actual reductions occur; and to establish when sufficient mitigation has occurred. Below are specific comments for some of the individual water bodies affected by this project, and examples of mitigation measures EPA believes should be implemented.

Colorado River: The DEIS clearly acknowledges that Colorado River flows could regularly (and more frequently than under existing conditions) diminish to the required minimum 90 cfs flows during summer, and that those decreased flows could precipitate increased Colorado River instream temperatures. Decreased flows (see, e.g., DEIS Table ES-2) and subsequent increased summer temperatures could lead to exceedences of the applicable WQS for instream temperature (see DEIS p.3-96, and Figure 3-38).

The DEIS modeling analysis is calibrated utilizing median USGS July water temperatures. To better estimate the more realistic impact(s) of the proposed alternative on instream temperatures, EPA suggests an additional analysis, relating daily discharge values to the 85th percentile daily water-temperature values. Since reduction in flow (discharge) will likely reduce the water depth of the river, in-stream temperatures are likely to increase, as is the frequency of days with elevated temperatures (and lower dissolved oxygen values). Modeling with median temperature data is insufficient to assess the more realistic effects of proposed water withdrawals

EPA suggests that the EIS include these model calibration changes, and disclose the estimated effects, which we believe will be greater than disclosed. EPA further notes that exceeding the applicable temperature criteria could significantly and adversely affect aquatic life. Further, additional nutrient loading and decreased D.O. could contribute to future needs for nutrient reductions, and additional stresses on aquatic life (see DEIS pp. 3-97 through 3-100, and Figure 3-46). Temperature mitigation activities could include planting trees or other riparian vegetation to provide shading; providing increased flows during periods of high temperatures; and construction of instream refuge habitat such as pools and undercut banks.

Three Lakes System: Granby Reservoir, Shadow Mountain Reservoir, and Grand Lake:

The DEIS estimates that the proposed project could significantly increase the loading of both phosphorus and nitrogen into the Three Lakes System by as much as 12.7% (see Table 3-51), and chlorophyll a levels by as much as 6.8% (see DEIS Table 3-53). This system is already experiencing nutrient imbalance issues as evidenced by recent Colorado State Water Quality Control Commission (WQCC) actions; ongoing workgroup meetings to address nutrient loading; and monitoring and data sharing activities. Existing Windy Gap pumping is identified as the largest contributor of phosphorus, and the second largest contributor of nitrogen loading to the Three Lakes system (see DEIS Table 3-47). The proposed action would significantly increase phosphorus loading, decrease D.O., and decrease clarity (see Tables 3-48 through 3-55) to these waterbodies already recognized by the WQCC as receiving an abundance of nutrients (WQCC Grand Lake clarity WQS action, 2008).

Mitigation measures in enforceable agreements can include: best management practices for agricultural and livestock production near the riparian corridor (e.g., buffer zones, nutrient minimization, livestock fencing and contour cropping); stormwater runoff control and retention for all nearby communities; incentive-based inspections and servicing of nearby septic systems; and operational changes in the Colorado Big Thompson system where practical.

Carter Lake and Horsetooth Reservoir: Carter Lake and Horsetooth Reservoir are impaired for their Aquatic Life Use due to high mercury levels in fish tissue samples taken from their resident fish populations. Elemental mercury may be atmospherically deposited and reach aquatic systems through natural processes such as during sheet flow or snowmelt events. The methylation of mercury in Colorado reservoirs has been associated with nutrient enrichment and reduced oxygen environments, where low oxygen or anoxic conditions foster the methylation of mercury, which is subsequently biomagnified in the food web. Larger, longer-living, higher trophic level fish species (e.g., walleye, smallmouth bass, wiper) may have significant levels of toxic methyl mercury accumulate in their organs and flesh. Some of these species are important sport fish prone to high levels of consumption by certain segments of the population. This is a serious human health concern being actively studied by the CDPHE for future management decisions and remediation actions (www.cdphe.state.co.us/wq/FishCon/Analysis/).

Additionally, Horsetooth Reservoir is impaired for D.O., with seasonal low oxygen levels associated with eutrophication in the reservoir. The action alternatives are predicted to be a major contributor of phosphorus and nitrogen loading, and subsequent decreased D.O. to Carter Lake and Horsetooth Reservoir (see DEIS pp. 3-113 through 114). The proposed action would significantly increase phosphorus loading (up to 11%), increase nitrogen loading (up to 5.8%), and increase chlorophyll a (>11% in both waterbodies). Further, the proposed action is predicted to decrease D.O. in both waterbodies (See Tables 3-65 thru 68). EPA strongly suggests mitigation to minimize pollutant loading which can include measures such as those described in the above comment on the Three Lakes System.

Appropriate Use of Water Quality Standards and Exceedence

EPA objects to the way in which the DEIS and Water Quality Technical Reports utilize WQS for D.O. in lakes and reservoirs, and then interpret those standards against existing lake and reservoir data profiles to determine WQS exceedence. Specifically, it appears that the DEIS is utilizing the “15th percentile of daily average epilimnion profiles,” presented as “In-Lake Values” (e.g., see DEIS Table 3-26) for D.O. Issues regarding use of WQS include:

1) Hypolimnion exclusions and interpretation of stratification – It appears the DEIS and technical reports only analyze and present epilimnion (surface layer) data for some of the analyses, ignoring the readily available thermocline and bottom layer data. Further, it is unclear how the analyses establish thermal stratification; what data is used and what is excluded; and how the presented results are calculated. Under most circumstances lake data are treated as discrete samples, and directly compared to water quality criteria, one measurement at a time, for the entire water column. EPA notes that under certain circumstances, State assessment determinations evaluate data from the epilimnion and metalimnion (surface layer and thermocline) of a lake or reservoir, and do not evaluate data from the hypolimnion (bottom layer) – see below. Otherwise, all lake and reservoir data are compared directly to all applicable WQS, which would be the logical protocol to ascertain impacts in any EIS. It appears that for some parameters the DEIS and supporting documents are examining only epilimnion data (e.g. see Lake and Reservoir Water Quality Technical Report, Table 16) ignoring the important water quality measurements throughout the rest of the water column (i.e. metalimnion, or thermocline, and hypolimnion). Further, it is unclear what methodology is utilized to establish the epilimnion depth during dynamic stratification cycles and individual sampling events, and what data is used for the presented results. EPA is concerned that this is a misapplication of applicable water quality standards; ignores the existing impaired conditions and potential impacts that may occur in the thermocline and bottom waters (as well as their influence on surface layers); and that this may distort water quality analyses and presentations of projected impacts. A disclosure of existing conditions and potential impacts should include all available data to inform the potential effects of the proposed project. EPA is unable to evaluate the full impacts of the proposed project under this type of deficient analysis. The DEIS should examine and present the data for all depths of lakes and reservoirs – not just the epilimnion. The water quality technical reports should disclose the specific methodology and data establishing any thermal stratification for all lakes and reservoirs examined, discussing what data are utilized and excluded and how the presented results are calculated. This should be at a level of detail sufficient to allow for independent confirmation of conclusions.

2) Averaging Profile Data – Neither the DEIS nor the Lake and Reservoir Water Quality Technical Report provide sufficient detailed methodology to understand the analysis that is presented for water quality data in lakes and reservoirs. Nevertheless, it appears that the analysis averages D.O. profile data (and possibly other parameters), which may lead to masking the disclosure of existing conditions and projected impacts. (See the WQCC’s stated protocol in Colorado Section 303(d) Listing Methodology – 2008 Listing Cycle, for D.O. data: [http://www.cdphe.state.co.us/op/wqcc/SpecialTopics/303\(d\)/303dLM2008.pdf](http://www.cdphe.state.co.us/op/wqcc/SpecialTopics/303(d)/303dLM2008.pdf))

“Dissolved Oxygen: Each measurement within the mixed layer of an unstratified lake, or within the epilimnion and the metalimnion of a stratified lake, is subject to comparison with the standard, which is a 1-day minimum.”

The State Listing Methodology explains that averaging D.O. is an “acceptable metric for assessment,” but this is not the preferred option for handling such data where direct comparison is possible. Individual profile data points should be compared to the WQS, and a synopsis of that comparison should be presented in the EIS and technical reports. Further, the methodology used should be detailed to a level sufficient to allow for independent corroboration of results and conclusions. The existing D.O. data should be analyzed and presented (at least in the technical reports) as discrete samples, without averaging, allowing insight into the potential impacts of the proposed project. Averaging such data risks masking over important D.O. dynamics in lakes and reservoirs. This is inconsistent with the WQCC’s stated intentions for implementing water quality standards for a broad range of parameters (especially D.O.) that are to be utilized as instantaneous maxima or minima to protect aquatic life and human health at all times (not just on average). Profile data for D.O. should be presented and evaluated as individual points, and the methodology used should be documented at a level of detail sufficient to allow for independent confirmation of conclusions.

3) 15th Percentile and “In-Lake Values” for D.O. Data – It is inappropriate to utilize a percentile ranking statistic in presenting D.O. measurements, as is done throughout the DEIS and supporting technical reports (e.g. Lake and Reservoir Water Quality Technical Report, Table 24, D.O. footnote). Use of the 15th or 85th percentile of data, or as a screening tool, for some criteria is outlined in State WQS and methods documents. However, presentation of the 15th percentile of D.O. data is inconsistent with applicable WQS. Utilizing a 15th percentile of this criterion would afford little to no protection of aquatic life propagation and growth in the lower ranked 14% of reported profiles, and could lead to extensive and frequent under-reporting of low D.O. conditions. Further, such presentation is misleading in the DEIS and probably masks the actual existing conditions and projections of potential impacts. Additionally, EPA finds the presented “In-Lake Value” for D.O., and subsequent comparison to applicable criteria particularly problematic. Creating a novel “In-Lake Value” for the DEIS, and disclosing the use of this characterization only in footnotes, may further limit the public’s ability to assess and understand actual existing conditions and projected impacts from the proposed project. This practice does not foster open disclosure of existing observations and projected impacts. D.O. criteria are established as 1-day minima in Colorado WQS, designed to protect the growth and propagation of aquatic life at all times. The DEIS and supporting technical reports should present the full range of data values (without any percentile ranking or creative classification) for all D.O. profiles, analyses, presentations, and conclusions.

4) Spawning Season D.O. Criteria – Both the DEIS and the Lake and Reservoir Water Quality Technical Report appear to consider spawning seasons and early life stages of aquatic life, but do not appear to use the spawning season D.O. criterion (e.g., Lake and Reservoir Water Quality Technical Report, Table 16, D.O. footnote, elsp). A spawning season D.O. criterion (typically 7.0 mg/L) is assigned to many of the assessed lakes and reservoirs by the WQCC, and applied

with seasonality dependent upon the species present (see e.g. Regulation 31- The Basic Standards and Methodologies for Surface Water - Spawning, or Colorado Section 303(d) Listing Methodology – 2008 Listing Cycle, Spawning Season DO Criteria). The DEIS and supporting documents should utilize the 7.0mg/L criterion wherever, and whenever, applicable for all D.O. profiles, analyses, presentations, and conclusions.

5) WQS Exceedence and Impairment Projection – The use of the above data exclusions, averaging, presented statistics, and applicable criteria raise questions wherever the DEIS discloses if WQS are currently being exceeded (e.g. see DEIS Table 3-40, far right column). The DEIS and supporting documents should be amended to address the issues above, and the impairment status for individual waterbodies should be redone implementing these changes. Because impairment determinations allow for the exclusion of hypolimnion data only under specific, limited circumstances, the analyses should include all data wherever possible. In any instances where hypolimnion data is not used, the analyses should specify those circumstances. Specifically, the hypolimnion exclusion is utilized only where a waterbody is strongly thermally-stratified with colder, denser bottom waters becoming isolated from warmer, less-dense surface waters, sequestering the hypolimnion from mixing and other processes. In order to utilize this hypolimnion assessment exclusion, one would first establish that strong thermal stratification exists (showing individual temperature profiles), and then determine to what depth (where the base of the thermocline exists) impairment determinations are still applicable for individual profiles. Otherwise, all lake and reservoir data are generally compared directly to all applicable WQS as outlined in CDPHE protocol for impairment determinations (see WQCC Colorado Section 303(d) Listing Methodology – 2008 Listing Cycle:

[http://www.cdphe.state.co.us/op/wqcc/SpecialTopics/303\(d\)/303dLM2008.pdf](http://www.cdphe.state.co.us/op/wqcc/SpecialTopics/303(d)/303dLM2008.pdf)

Impacts to Wastewater Treatment Plants

The potential impacts to wastewater treatment plants (WWTPs) depends on whether the plants are located on the West Slope or East Slope of the Continental Divide. On the West Slope (Hot Sulphur Springs and Three Lakes WWTPs), where water is being taken out of the system, the potential impacts of this project are decreased upstream flows which will reduce available pollutant assimilative capacity in the receiving waters (Colorado River and Willow Creek). This will likely result in more stringent National Pollutant Discharge Elimination System (NPDES) permit limits for, e.g., ammonia, which may require additional treatment facilities or processes. Any additional treatment will require additional capital and/or operational expenditures and could be expensive particularly for lagoon treatment systems like the Hot Sulphur Springs facility. If required, treatment methods or other controls for other pollutants like metals, e.g., selenium, can also be costly to the facility. The reduced low flow impacts appear to be greatest for the proposed action (see DEIS p. 3-92, 3-101). This impact should be better addressed in the EIS.

On the East Slope, increased pollutant loadings from project participant WWTPs would be required to meet Colorado's WQS including antidegradation provisions for the receiving

waters. Where there is no additional pollutant assimilative capacity available, additional treatment will be required which is a potentially expensive impact.

The DEIS does not discuss potential impacts to the Estes Park water and sewage facility from the additional nutrient loading which will occur in the Big Thompson River due to this project. The DEIS indicates that a flow increase in the Upper Big Thompson River below Lake Estes from additional Windy Gap deliveries (9 percent for the proposed action) will bring additional nitrogen and phosphorous load (see DEIS p. 3-109). The impacts to the Estes Park facility should be added to the discussion in the EIS.

Increased flows (and pollutant loadings) at a point source may 1) trigger antidegradation review on reviewable segments and result in more stringent NPDES permit limits at the time of permit reissuance (every 5 years), and 2) decrease available pollutant assimilative capacity available for downstream point sources. In addition, on CWA Section 303(d) listed waters, pollutants driving the listing have no available assimilative capacity and increased loadings are not allowed from point sources. For waters having a completed TMDL for a pollutant, point source loadings are limited by the approved wasteload allocation in the TMDL, and no additional loading of the pollutant from a point source is allowed to be permitted without a change in the EPA-approved TMDL. When water deliveries from the proposed alternative and other alternatives (including the no action alternative) result in an increased point source discharge flow, pollutant loads are increased and additional costs to treat increased pollutant loads are likely to occur for the affected point source.

STREAM MORPHOLOGY

The DEIS states that flushing flows in the Colorado River equal to or greater than 450 cfs occur about 45 days in an average year and 103 days in a wet year per year under existing conditions (see DEIS p. ES-11). Under the proposed action, the flushing flows would occur 36 days in an average year (35 days for the other action alternatives) and 93 days in a wet year for all action alternatives (see DEIS Table 3-22). In addition, stream morphology impacts were assessed by comparing the frequency of bankfull discharge (equal to or greater than 1,240 cfs at Hot Sulphur Springs) under existing and proposed conditions and by comparing changes in the range of channel maintenance flows. The DEIS states that the frequency of flushing flows and bankfull discharge would remain adequate to transport sediment and prevent deposition, and therefore no mitigation for stream morphology impacts is proposed. Furthermore, the DEIS states that the differences in channel maintenance flows would be small and unlikely to measurably alter channel morphology or sediment movement. EPA is concerned that these analyses do not adequately characterize potential impacts to the stream morphology and associated ecological communities of the Colorado River.

The DEIS states that channel maintenance flows are the flows considered necessary to maintain the physical characteristics of a stream channel and provide benefits to the stream ecosystem by conveying water and eroded materials, preventing vegetation establishment in the channel, sustaining aquatic ecosystems, temporarily storing flood flows on the floodplain, and

maintaining healthy streambank and floodplain vegetation (see DEIS 3-60). The DEIS presents an analysis of channel maintenance flows consistent with the Schmidt and Potyondy (2004) methodology. EPA is concerned that this methodology has been inappropriately applied to assess changes in channel maintenance flows from the proposed project. According to Schmidt and Potyondy (2004), “(t)he approach is appropriate for quantifying channel maintenance flows on perennial, *unregulated*, snowmelt-dominated, gravel-bed streams with alluvial reaches” (emphasis added). As stated in the DEIS and illustrated in Figure 1 and Table 1 of this letter, the flow regime under existing conditions is substantially altered through regulated water diversions in the basin. For example, the 25-year instantaneous peak flow in the period of record from 1904 to 1949 has, under existing conditions, a return interval of 200 years not 25 years (see Table 1 above). Both the magnitude and frequency of flow events are substantially altered compared with unregulated conditions on the Colorado River, and as such, applying this methodology likely significantly understates the potential impacts to stream morphology from this proposed project.

As stated in the Water Resources Technical Report, the frequency, magnitude and duration of flow events affects channel dynamics. In snowmelt dominated systems like the Colorado River, much of the work on the channel is done by the spring snowmelt peak flows, and channel geometry and complexity respond to these dominant, or bankfull, discharges of water and sediment. The river stage associated with bankfull discharge is considered to be the point at which the river begins geomorphic “work” on the entire channel system, and higher flows extend the duration and magnitude of this work. Thus, river stage may be a better indicator of the effectiveness of flows on channel geometry and the physical habitat template for aquatic communities than bankfull discharge. The additional withdrawal of flow from the Colorado River due to the proposed project will probably cause bankfull stage to be reached less frequently, resulting in less capacity within the river system to maintain adequate conditions for aquatic ecosystem integrity (e.g., temperature, D.O., channel habitat, back-water areas for juvenile amphibians, fish, endangered species, etc).

The diversion of water from the Colorado River to meet water supply needs will alter the natural hydrology downstream of the diversion point, thus affecting the aquatic ecosystem downstream. Diversion of the snowmelt peak flows in wet and average years will reduce the frequency of medium and high flow events, which will likely, in turn, affect stream morphology, instream water quality, the physical habitat template of downstream aquatic communities, food web structure, spawning, egg hatching, and migration cues for fish, and the ability for riparian species recruitment and inundation of backwater and floodplain habitats. To truly understand what the diversion will mean for the aquatic ecosystem and hydrology downstream of the diversion point, EPA suggests that the following analyses be performed:

- Establish/characterize the relationship between bankfull discharge and river stage at monitored points, e.g., at two gauged points downstream from the withdrawal point on the Colorado River;
- Model the stage of the river and projected effects of the project alternatives on stage at these gage locations;

- Document the current pattern of river stages and consequent (existing) habitat availability, temperature and D.O. levels. Then model, with the expected decreases in flow and resultant decreases in river stage, the change in frequency that stream temperature and D.O. meet (or conversely exceed) water quality criteria and that physical habitat parameters are maintained;
- Assess the potential for threshold responses of the aquatic community.

These analyses should be done both within the context of the direct and indirect impacts of this project as well as cumulative impacts of this and other reasonably foreseeable actions (e.g., Moffat Collection System and climate change).

The DEIS states that changes in streamflow associated with the alternatives are not expected to significantly impact stream morphology or change sediment transport or deposition. In part, the Stream Morphology conclusions were made based upon a comparison of frequency of exceedence of the 2-year peak discharge (estimated to be 1,240 cfs at Hot Sulphur Springs) under existing and proposed conditions. EPA believes the conclusions of this analysis are misleading. For example, in Section 3.7.3 Cumulative Effects (see DEIS p. 3-65), the DEIS states that under current conditions, the 2-year peak discharge was exceeded 4% of the days within the study period and that under the proposed action, this discharge would be exceeded 2.5% of the days. The DEIS conclusion, that the 2-year peak discharge would occur 1.5% less frequently is somewhat misleading. For example, if the frequencies were examined on a yearly basis, there would be a reduction in peak discharge occurrence from 15 days to 9 days. This mischaracterization was also made in Section 3.7.2.3 (see DEIS p. 3-63). EPA requests that the applicant modify these descriptions and consider changes in the conclusions to reflect the potential reduction in frequency of peak flows.

In the Water Resources Technical Report, Table 3 shows the average total historical monthly Windy Gap diversions at Windy Gap reservoir for April through July as 11,080 AF. However, Table 3-2 of the Draft EIS shows the average annual flow under existing conditions for the Windy Gap diversions used for the model as 36,532 AF. It is not clear why this diversion flow used for the model is so much higher than the average historical diversion. Use of the higher flow in the model can result in significant underestimation of the hydrological impacts associated with the project.

AQUATIC LIFE IMPACTS

Project-induced changes in flow characteristics will likely impact aquatic life in the upper Colorado River Basin ecosystems due to changes in aquatic habitat, including changes in stream morphology and water quality. In the DEIS, impacts to aquatic life were concluded to be minor, or in some cases beneficial, however EPA believes the analysis did not adequately consider potential impacts to aquatic communities due to changes in water quality or physical habitat. Increased nutrient loading, reductions in D.O. and instream temperature increases are all impacts disclosed in the DEIS, and may result in an inability to support aquatic life use standards due to expected changes in ambient environmental conditions. Changes in these conditions can

influence the abundance and distribution of native and sport fish, macroinvertebrate and algal communities, and may lead to a community dominated by species tolerant to degraded water conditions.

The DEIS states that project-induced changes to channel morphology and sediment movement are minor, however EPA believes that these analyses do not adequately characterize potential impacts to the stream morphology and associated ecological communities of the Colorado River. Spawning site availability for fish, habitat heterogeneity (e.g., riffle and pool complexes) and refugia for aquatic macroinvertebrates is largely influenced by changes in substrate characteristics and channel complexity associated with the timing, frequency and magnitude of flow events. Furthermore, peak flows that mobilize and transport medium sized sediments (sands and gravels) abrade periphyton assemblages from larger substrates, and loss of this abrasive ability with reduced flows will facilitate periphyton growth and survival and alter the algal and macroinvertebrate assemblages. It is important to note that project-induced reductions in habitat availability are based upon existing conditions, which represent a substantially altered and regulated flow regime. Further, piecemeal impacts due to this project and other reasonably foreseeable actions have the potential to significantly and permanently reduce the quality of habitat for aquatic communities. EPA suggests that a more complete analysis of impacts to aquatic resources be conducted, including a meaningful integration of water quality and stream morphology impacts. Ecological modeling and analyses should be conducted using a daily time-step, instead of a monthly time-step that may mask discharge values that occur for only a few days within any given month.

COMPLIANCE WITH THE CWA SECTION 404(b)(1) GUIDELINES

EPA is providing comments on the CWA Section 404 permit application for the WGFP in a separate letter to the Corps. EPA understands the Corps intends to use the BOR EIS to satisfy the requirements of the CWA Section 404(b)(1) Guidelines (Guidelines). The Corps must ensure compliance with the Guidelines prior to issuance of a CWA Section 404 permit for the discharge of dredged or fill material into waters of the United States. EPA disagrees with the narrow scope of the purpose and need statement in the DEIS for the issuance of a CWA Section 404 permit. EPA believes the basic (overall) project purpose is to provide a portion of the existing and future water supply demands of project participants.

EPA believes the DEIS analysis is not in compliance with the Guidelines due to: 1) an improperly truncated review of alternatives (40 CFR 230.10(a)); 2) a lack of meaningful analysis regarding potential violations of State water quality standards (40 CFR 230.10(b)); 3) a lack of meaningful analysis regarding the potential for the proposed action to cause or contribute to significant degradation of waters of the U.S, specifically in light of secondary and cumulative effects of this and other reasonably foreseeable water projects within the Upper Colorado River Basin (40 CFR 230.10(c)); and 4) insufficient mitigation (40 CFR 230.10(d)).

In addition, based on the information currently available in the DEIS, EPA believes the proposed action will result in substantial and unacceptable impacts to the Upper Colorado River

Basin, which EPA has determined is an aquatic resource of national importance (ARNI) in accordance with the CWA Section 404(q) and Part IV(3)(b) of the 1992 Memorandum of Agreement between EPA and the Department of the Army. In its letter to the Corps regarding the WGFP CWA Section 404 permit application, EPA is requesting the Corps reconsider the availability of potentially less environmentally damaging practicable alternatives.

MITIGATION

EPA believes the mitigation proposed for water quality impacts is not sufficient to address the impacts disclosed in the DEIS (see DEIS p. 3-292). Impaired waters are projected to be further impaired due to this project, therefore the mitigation measures should be much more definitive than currently proposed in the DEIS. EPA has provided suggested water quality mitigation measures in the water quality section above. In addition, the DEIS does not contain proposed mitigation for the stream morphology impacts. EPA strongly recommends identifying appropriate mitigation measures in the EIS and including such mitigation as enforceable measures in the ROD.